

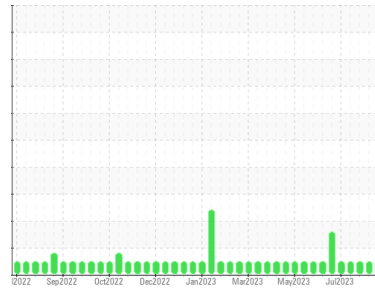


OIL ANALYSIS REPORT



Machine Id
Coopersville CAT 4 CPVM04BE
 Component
Biogas Engine
 Fluid
CHEVRON HDAX 6500 LFG GAS ENGINE OIL (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0819475 | WC0819450 | WC0819456 |
| Sample Date | Client Info | | 23 Aug 2023 | 14 Aug 2023 | 04 Aug 2023 |
| Machine Age | hrs | Client Info | 74647 | 74431 | 74191 |
| Oil Age | hrs | Client Info | 853 | 637 | 397 |
| Oil Changed | Client Info | | Not Chngd | Not Chngd | Not Chngd |
| Sample Status | | | NORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| Glycol | WC Method | | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|----------|--------|-------------|---------|--------------|----------|----|
| Iron | ppm | ASTM D5185m | >15 | 2 | 2 | 0 |
| Chromium | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >6 | 2 | 4 | 2 |
| Lead | ppm | ASTM D5185m | >9 | 2 | 1 | 1 |
| Copper | ppm | ASTM D5185m | >14 | 3 | 1 | 3 |
| Tin | ppm | ASTM D5185m | >4 | 6 | 5 | 4 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 | |
|------------|--------|-------------|---------|--------------|----------|------|
| Boron | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 2 | <1 | 2 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 10 | 15 | 11 |
| Calcium | ppm | ASTM D5185m | | 2049 | 2092 | 2109 |
| Phosphorus | ppm | ASTM D5185m | | 289 | 301 | 292 |
| Zinc | ppm | ASTM D5185m | | 378 | 375 | 374 |
| Sulfur | ppm | ASTM D5185m | | 2231 | 2267 | 2054 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|-------------|---------|------------|----------|-----|
| Silicon | ppm | ASTM D5185m | >181 | 164 | 135 | 117 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 0 | <1 |

INFRA-RED

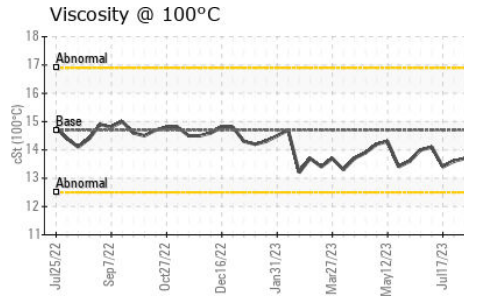
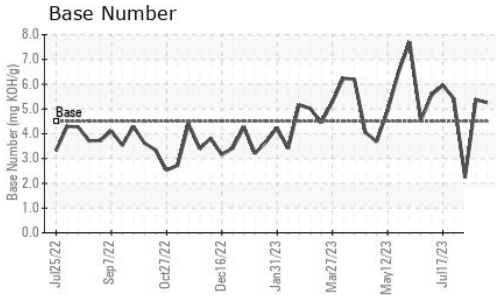
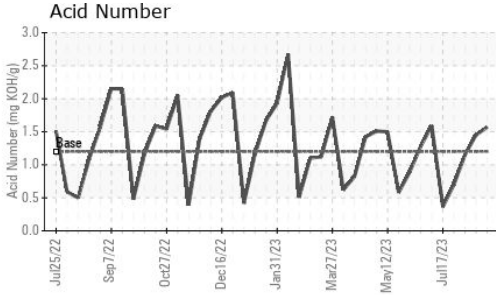
| | method | limit/base | current | history1 | history2 | |
|-----------|----------|-------------|---------|-------------|----------|------|
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.7 | 7.3 | 7.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.7 | 19.6 | 18.9 |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 | |
|------------------|----------|-------------|---------|-------------|----------|------|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.7 | 16.4 | 14.3 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.2 | 1.57 | 1.45 | 1.15 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 4.5 | 5.26 | 5.37 | 2.23 |



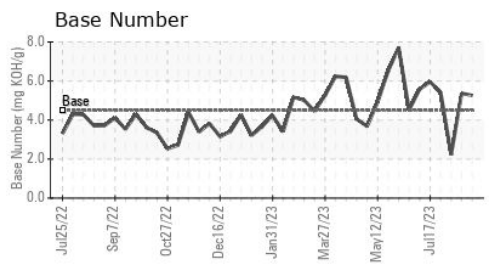
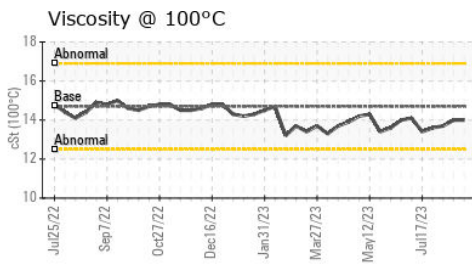
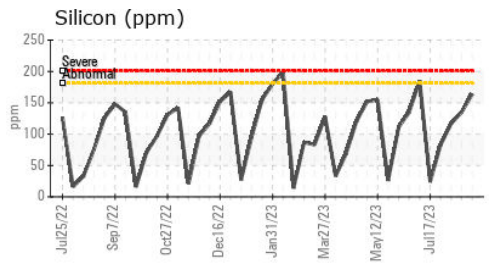
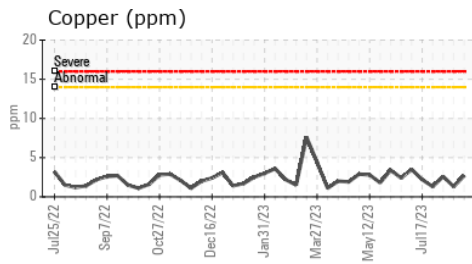
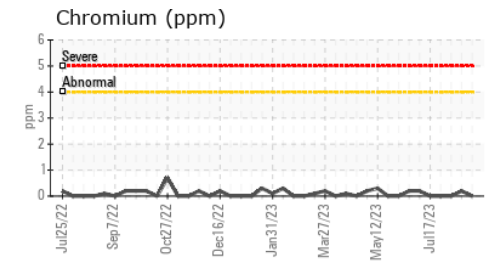
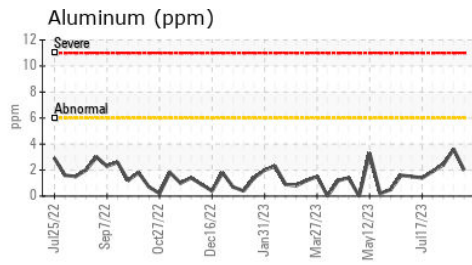
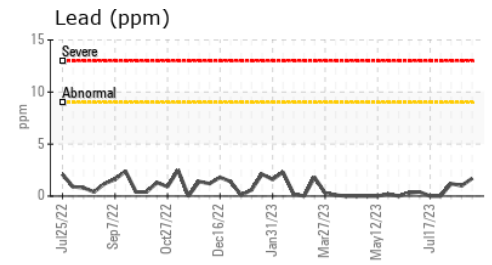
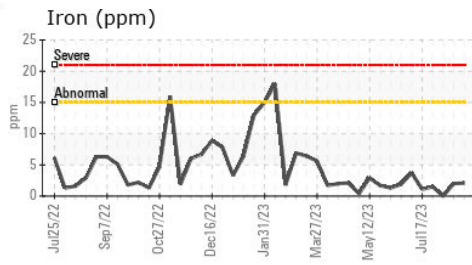
OIL ANALYSIS REPORT



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 14.7 | 14.0 | 13.7 |

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0819475 Received : 25 Aug 2023
 Lab Number : 05934950 Diagnosed : 28 Aug 2023
 Unique Number : 10620221 Diagnostician : Sean Felton
 Test Package : MOB 2

EDL NA Recips-Coopersville
 Coopersville Powerstation, 15362 68th Avenue
 Coopersville, MI
 US 49404
 Contact: Daniel Young
 daniel.young@edlenergy.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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F: